

JUL 18 1898

U. S. DEPARTMENT OF AGRICULTURE.

REPORT FOR JUNE, 1898.

MARYLAND AND DELAWARE SECTION
OF THE
CLIMATE AND CROP SERVICE
OF THE
WEATHER BUREAU.

IN COOPERATION WITH THE
MARYLAND STATE WEATHER SERVICE.

(Prof. Wm. B. Clark, Director; Prof. Milton Whitney, Secretary and Treasurer.)

PREPARED UNDER DIRECTION OF
WILLIS L. MOORE,
CHIEF OF WEATHER BUREAU.

BY

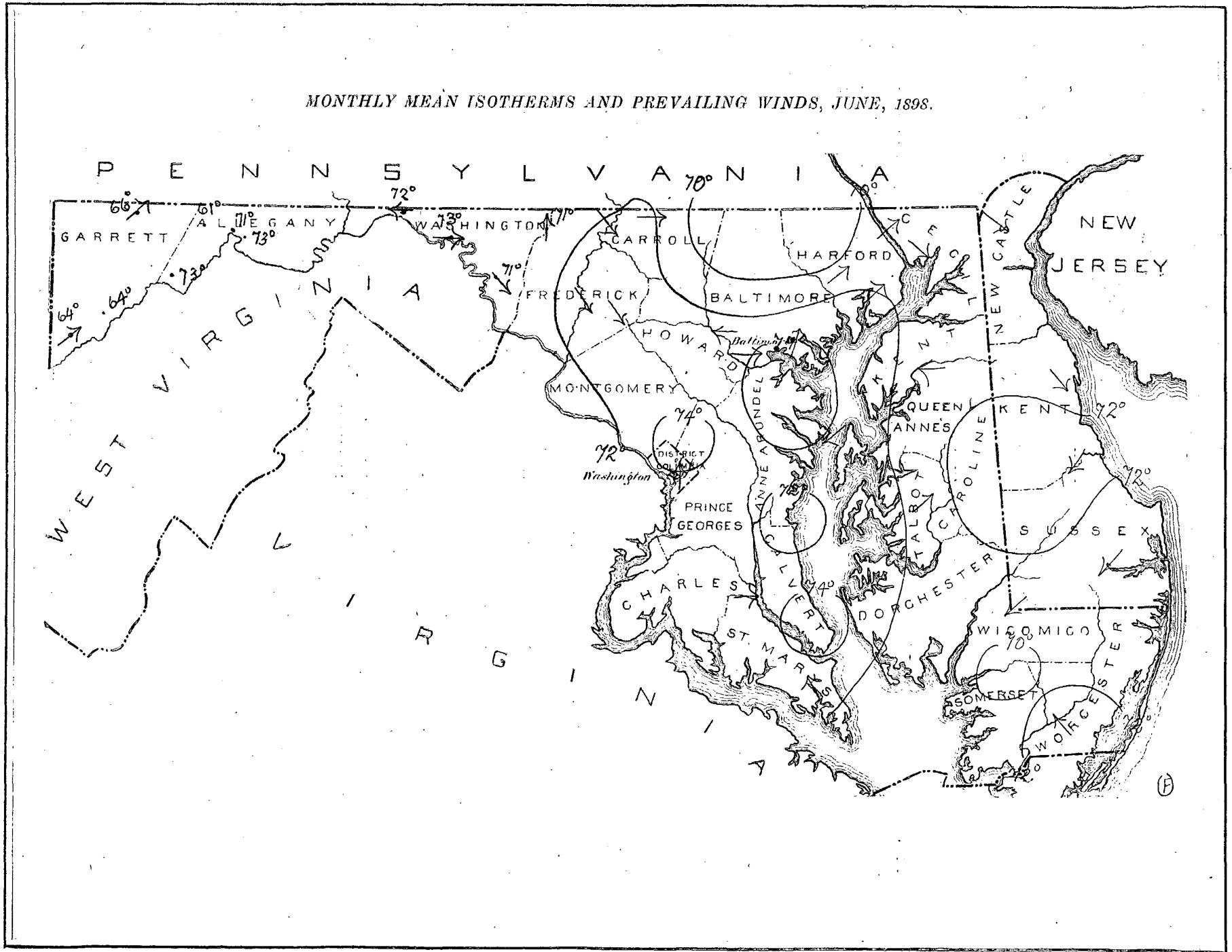
F. J. WALZ,
SECTION DIRECTOR.



BALTIMORE, MD.:
WEATHER BUREAU OFFICE.
JOHNS HOPKINS UNIVERSITY.

1898.

MONTHLY MEAN ISOTHERMS AND PREVAILING WINDS, JUNE, 1898.



U. S. DEPARTMENT OF AGRICULTURE,

CLIMATE AND CROP SERVICE

OF THE

WEATHER BUREAU.

CENTRAL OFFICE: WASHINGTON, D. C.

BALTIMORE, MD.

VOL. III.

BALTIMORE, MD.

No. 6.

REVIEW OF THE CROP CONDITIONS.

THE FIRST WEEK IN JUNE. The past week has been warm and dry, with cool nights and high midday temperatures. Sunshine has been in excess. Very little rain occurred. The weather on the whole has been exceptionally favorable for work and growth. Wheat is heading out and is very promising in most sections. Some injury is reported from rust and smut and fly. Corn is growing well. Oats are generally reported good. Grass is in fine condition, and the hay prospects are very good. Red clover is ripening and big crops of timothy and clover are expected. Rye is doing well. Potatoes are coming into bloom and are generally promising. Early peas gave a good yield. Tomato fields are being planted, and the acreage promises to be large. Strawberries are ripening and plentiful. Garden truck is growing nicely. Very little progress has been made in setting out tobacco, having been too dry. Some of the beds in the southern counties are burning up. Rain is much needed for tobacco, tomatoes, and sweet potatoes. Apples and peaches will be scarce through continued dropping of the fruit. The best reports on peaches come from the mountain districts of Washington County, where it is claimed that prospects are good for a large crop.

THE SECOND WEEK IN JUNE. The week has been warm and dry. The only general rain occurred on Saturday morning, though a few light showers fell in the extreme western part of the State. At Baltimore the temperature was daily about four degrees in excess of normal. The week was favorable for farm work and maturing of wheat and rye. Rain is much needed for oats, grass, garden truck, corn and tobacco. Wheat is in good condition. It is ripening and will soon be ready for the harvest. Rye is ripening and continues promising. Some barley is being harvested. A large acreage of buckwheat is being sown in Garrett and Allegany Counties. Corn is growing nicely. Potatoes are coming into bloom. The hay crop promises to be large. Oats are looking fairly well, but are much in need of rain. Gardens need rain also. Peaches continue to drop in great numbers. The apple crop promises to be light. Cherries are ripening and are plentiful, but inferior in quality. The week has been too dry for much progress in setting out tobacco plants. Plant beds are also failing from the heat and drought.

THE THIRD WEEK IN JUNE. The week opened and closed with showers. The early days were warm, but the cool weather since Wednesday made the temperatures of the week, as a whole, below normal. Conditions were

favorable for ripening grain and for the harvesting of hay. Wheat is well advanced; it is being harvested in some localities. Harvesting will be general within the next week or ten days. The outlook for good crops is favorable in the western and north-central counties, though the fields are somewhat injured by the fly. Corn is growing well and much of it is being worked the second time; the crop needs rain. Oats are not looking so well and will probably be a poor crop in most localities. Haymaking is in progress and the yields thus far have been fine. Good progress has been made in seeding buckwheat. Tomato plants are being extensively transplanted, but rain is needed badly for further progress. Sweet potatoes are doing well, but are not yet all set out. Potatoes are growing nicely. Gardens are generally suffering; they need more rain. Very few tobacco plants have been set out; only half the crop has been transplanted; plant beds are beginning to fail. Pears will be rather plentiful. Peaches and apples will be scarce. Blackberries and raspberries will be abundant.

THE FOURTH WEEK IN JUNE. The first five days of the week were cool, averaging at Baltimore, about seven degrees below normal. The last two days were very warm, with temperatures as much above normal, and with dry parching winds. A few light, scattering rains fell early in the week and refreshing showers were general on Saturday, except in the southern counties, where the drought continues; there has been but little rain here since the latter part of May. The week was very favorable for the wheat and hay harvest. Harvesting is now well under way. The wheat crop has suffered considerable damage from rust and fly, materially affecting the yield; the heads have filled fairly well. Oats will be short. Potatoes are generally in good condition. It has been much too dry for tobacco and tomatoes, though some progress has been made in setting out these crops. Tobacco plant beds are failing, and not more than half the crop will be set out unless good rains come soon. Corn is backward, though on the whole looking well; it is much in need of rain. Melon vines are in blossom and a fine crop is promised. Truck crops are late and somewhat injured by dry weather. The hay harvest is well advanced; the crop will be large. Pastures are failing. The fruit outlook is unpromising. There will be very few peaches and apples.

* * *

A SEVERE HAIL STORM IN BALTIMORE COUNTY.

[By T. J. A. FREEMAN, S. J., Woodstock College.]

A hail storm of more than usual severity, the worst in the history of our local Weather Bureau station, struck this section of the county on Monday, May 16th. The morning was clear and cool, with a cloudless sky; about 2.30 p. m., dark, heavy masses of clouds began to gather rapidly in the northwest, moving slowly southeastward. The sunshine however, continued until nearly 3.30 p. m., then it suddenly grew dark, darker even than half twilight, the clouds having a peculiar ashen color. From about 3.15 p. m., thunder was heard frequently, gradually coming nearer; it became louder and very severe about 3.45 p. m.; the lightning was sharp and repeated; the heaviest clap of thunder was at 4 p. m. Flash

and report seemed almost simultaneous. No rain fell until 3.55 p. m., then it came down suddenly in torrents; this lasted for about two minutes, turning suddenly into large hailstones which descended fiercely for about twelve minutes. From the very start the stones were of large size; it was the proverbial shower of hens' eggs realized. The stones were in general of a flattened, elliptical shape. Several picked up at random immediately after falling measured $2\frac{1}{2} \times 2 \times 1\frac{1}{2}$ inches, and were nearly 4 ounces in weight. All that fell seemed over $1\frac{1}{2}$ inches (longest measurement); they literally covered the ground; nor had the last vestige disappeared until an hour and a half afterward. In a square yard one could easily have collected a coal scuttle full. The shower of hail ceased at 4.10 P. M., turning into heavy rain for two or three minutes. At 4.50 P. M. another thunderstorm followed—not very severe thunder, but the down-pour of rain was very heavy. No hail fell at all. This stopped at 5.20 P. M., and the sky began to clear quickly. By 7.30 P. M. there was again a cloudless sky. The total rainfall was 1.67 inches, forty-five minutes being the actual time of fall. The hail did considerable damage; all our skylights were broken, some of these were glazed with heavy ripped $\frac{1}{4}$ -inch glass, yet some of these panes were completely shattered. The windows facing north and west suffered; in all, 319 panes were broken. The greenhouse roof and hotbeds were totally wrecked. Many buds were found dead. The ground was strewn with leaves, twigs and small branches, cut off by the hail (little or no wind blew during the storm). One farmer reports that the wheat crop has been damaged about 20 per cent. Small fruit is somewhat damaged. Large fruit, however, is safe. Strange to say, in our vicinity we felt the storm the most. At Granite postoffice, one mile distant, the stones were said to be as large as marbles only; the same at Woodstock railroad station, not more than five minutes' walk from this house.

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CLIMATOLOGY OF THE MONTH.**ATMOSPHERIC PRESSURE—IN INCHES AND HUNDREDTHS.**

Monthly mean at Washington, D. C., 30.03; at Baltimore, 30.01; average, 30.02; highest, 30.28 at Washington, D. C., and Baltimore, on the 16th; lowest, 29.64 at Baltimore, on the 25th.

TEMPERATURE—IN DEGREES FAHRENHEIT.

The monthly mean (entire territory), 71.7, is 0.6 above the normal.

The highest monthly mean was 76.8, at Annapolis.

The lowest monthly mean, was 60.8, at Frostburg.

The highest temperature recorded during the month was 100, at Westernport, on the 30th, and at Bachman's Valley, on the 25th.

The lowest temperature recorded during the month was 35, at Deer Park, on the 24th.

The greatest local monthly range was 59, at Westernport and Bachman's Valley.

The least local monthly range was 41, at Annapolis, Milford, Del., and Solomons.

The greatest daily range was 49, at Newmarket, on the 25th.

The least daily range was 1, at Frostburg, on the 28th.

PRECIPITATION—IN INCHES AND HUNDREDTHS.

The monthly average (entire territory) 2.00, was 1.17 below the normal.

The greatest amount was 3.99, at Newark, Del.

The least amount was ~~0.58~~^{0.55}, at ~~Great Falls~~^{M. J. Agl. College}.

The greatest amount in twenty-four hours was 2.68, at Mardela Springs, on the 18th and 19th.

The average number of rainy days, 6.

WIND.

The prevailing direction was from the northwest.

The total movement was 3,754 miles, at Baltimore, and 4,062 miles, at Washington, D. C.

The maximum wind velocity was 30 miles per hour from the northwest, at Washington, D. C., on the 28th.

MISCELLANEOUS.

The following are dates on which various miscellaneous phenomena occurred:

Thunderstorms.—Annapolis, 22; Bachman's Valley, 11, 12, 25; Baltimore, 11, 13, 27, 28; Charlotte Hall, 3, 11, 12, 13, 25, 26, 28; Chestertown, 3, 11, 13, 25; Cherryfields, 3, 12, 13, 26, 28, 30; Dover, Del., 22, 25; Fallston, 11, 13, 22, 25, 28; Frederick, 2, 11, 12, 13, 25; Grantsville, 10, 11, 12, 13, 18, 19, 25, 26, 27; Green Spring Furnace, 2, 11; Jewell, 11, 13, 26, 27, 28; Kensington, 25, 28; Laurel, 11, 13, 25, 28; Millsboro, Del., 12, 13, 22, 28; Mt. St. Mary's, 11, 13, 25; Newark, Del., 3, 11, 13, 19, 23, 28; New Market, 11, 14.

Hail.—Annapolis, 13; Chestertown, 3; Hancock, 2; Sharpsburg, 2.

High winds.—Charlotte Hall, 22; Cherryfields, 22; Green Spring Furnace, 25; Taneytown, 25.

High tide.—Cherryfields, 4 to 6.

Fog.—Cherryfields, 7, 8; Green Spring Furnace, 5, 6; Millsboro, Del., 7; Princess Anne, 7; St. Charles College, 25; Sunnyside, 10, 20, 27.

Sun dog.—Jewell, 14.

Solar corona.—Solomons, 11.

Frost, light.—Deer Park, 23, 24.

Aurora.—Millsboro, Del., 5.

Halo, lunar.—Millsboro, Del., 2.

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THE OMAHA CONVENTION.

On Thursday and Friday, October 20th and 21st, 1898, there will be a Convention of Weather Bureau Officials held at Omaha, Nebr. The Baltimore office will probably be represented by the official in charge, Mr. F. J. Walz. The promised attendance will include the Honorable Secretary of Agriculture, Chief of the Weather Bureau, and seventy-five or more of the more prominent officials of the various Weather Bureau Stations, and an enthusiastic and successful convention seems assured. The practical and scientific work of the Bureau will be discussed, and brief papers upon topics of interest will be read. Advantage will be taken of the reduced fares made on account of the Transmississippi and International Exposition, which will be in operation at that time, and special hotel rates will be allowed members of the convention. A cordial invitation to attend the convention is extended to all voluntary observers and crop correspondents of the Maryland and Delaware Section.

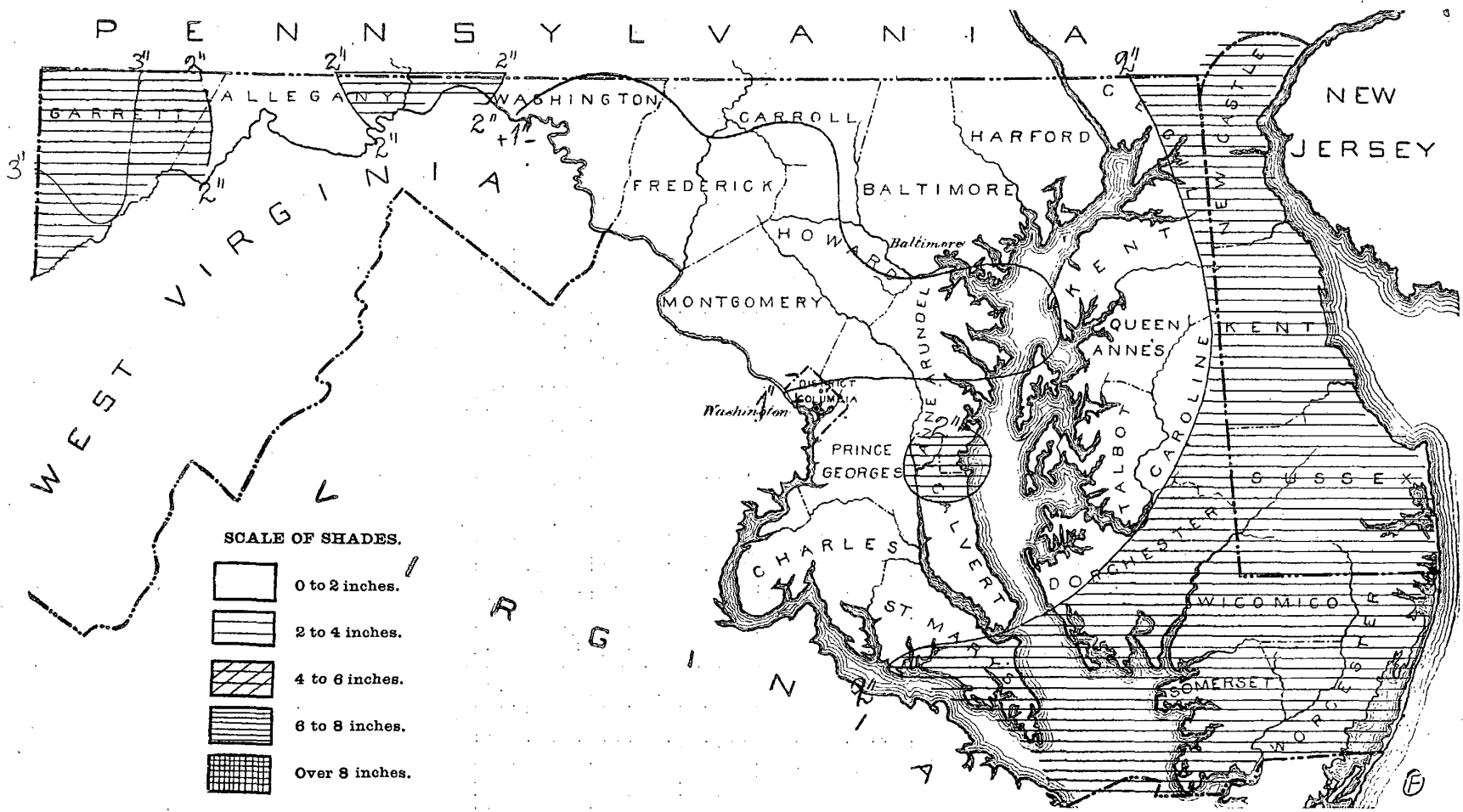
Climatological data for Maryland and Delaware, June, 1898.

| Stations. | Counties. | Elevation, feet. | Length of record, years. | Temperature, in degrees Fahrenheit. | | | | | | | Precipitation, in inches. | | | | | Sky. | | | | Prevailing direction of wind. | Observers. |
|--------------------------------|------------------------|------------------|--------------------------|-------------------------------------|----------------------------|----------|-------|---------|-------|-----------------------|---------------------------|----------------------------|-----------------------|----------------------------|--------------------|--------------------|----------------------------|---------------------|-------|-------------------------------|------------|
| | | | | Mean. | Departure from the normal. | Highest. | Date. | Lowest. | Date. | Greatest daily range. | Total. | Departure from the normal. | Greatest in 24 hours. | Total snowfall (unmelted). | Number rainy days. | Number clear days. | Number partly cloudy days. | Number cloudy days. | | | |
| WESTERN MARYLAND. | | | | | | | | | | | | | | | | | | | | | |
| Boettcheville..... | Allegheny..... | 700 | 8 | 71.2 | +0.2 | 98 | 30 | 44 | 1 | 46 | 1.90 | -2.34 | 1.00 | ..... | 6 | ..... | ..... | ..... | ..... | F. F. Brown. | |
| Cumberland..... | Allegheny..... | 722 | 39 | 73.1 | +2.5 | 92 | 30 | 51 | 22 | 33 | 1.66 | -2.04 | 0.70 | ..... | 7 | ..... | ..... | ..... | ..... | Howard Shriver. | |
| Deer Park..... | Garrett..... | 2,457 | 1 | 63.9 | -0.7 | 88 | 11 | 35 | 24 | 45 | 3.36 | -0.55 | 0.71 | ..... | 8 | ..... | ..... | ..... | ..... | S. P. Specht. | |
| Frostburg..... | Allegheny..... | 2,100 | 3 | 60.8 | ..... | 83 | 8 | 40 | 7 | 38 | 1.76 | ..... | 0.63 | ..... | 9 | ..... | ..... | ..... | ..... | G. G. Townsend. | |
| Grantsville..... | Garrett..... | 2,440 | 5 | 65.5 | +0.9 | 88 | 11 | 40 | 23 | 41 | 3.07 | -1.12 | 0.65 | ..... | 9 | 10 | 75 | 5 | SW | J. S. Miller. | |
| Green Spring Furnace..... | Washington..... | 500 | 6 | 72.8 | +0.4 | 97 | 25 | 48 | 20 | 40 | 0.74 | -2.27 | 0.35 | ..... | 7 | 22 | 7 | 1 | W | E. G. Kinsell. | |
| Hagerstown..... | Washington..... | 550 | 7 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | Prof. C. E. Carl. | |
| Hancock..... | Washington..... | ..... | ..... | 74.4 | ..... | 93 | 25 | 46 | 23 | 38 | 2.77 | ..... | 0.72 | ..... | 9 | 4 | 20 | 6 | E | J. D. Stofletmeyer. | |
| Sharpsburg..... | Washington..... | 450 | 4 | 71.0 | +1.0 | 96 | 25 | 52 | 24 | 37 | 1.23 | -2.77 | 0.45 | ..... | 6 | 17 | 10 | 3 | NW | R. L. Hiberger. | |
| Smithsburg..... | Washington..... | 750 | 1 | 71.0 | +2.4 | 97 | 25 | 42 | 23 | 40 | 0.58 | ..... | 0.25 | ..... | 5 | 21 | 6 | 0 | S | Joseph L. Miller. | |
| Sunnyside..... | Garrett..... | 2,440 | 6 | 64.4 | 0 | 87 | 11 | 36 | 22 | 41 | 2.33 | -2.88 | 0.68 | ..... | 8 | 12 | 0 | 18 | SW | J. G. Knauer. | |
| Westernport..... | Allegheny..... | 1,000 | 4 | 73.2 | +2.5 | 100 | 30 | 41 | 23 | 40 | 2.18 | -0.12 | 0.96 | ..... | 7 | ..... | ..... | ..... | ..... | Prof. O. H. Bruce. | |
| Average..... | | | | 69.0 | +1.0 | | | | | | 1.96 | -1.76 | | | 7 | 14 | 10 | 6 | SW | | |
| NORTHERN-CENTRAL MD. | | | | | | | | | | | | | | | | | | | | | |
| Bachman's Valley..... | Carroll..... | 860 | 5 | 70.2 | +0.3 | 100 | 25 | 41 | 22 | 42 | 0.86 | -2.54 | 0.48 | ..... | 5 | 25 | 2 | 3 | NW | J. M. Myers. | |
| Baltimore..... | Baltimore..... | 123 | 64 | 73.9 | +1.2 | 98 | 25 | 55 | 23 | 30 | 1.06 | -2.80 | 0.51 | ..... | 6 | 11 | 16 | 3 | SW | U. S. Weather Bureau. | |
| Baltimore, J. H. Hospital..... | Baltimore..... | 124 | 4 | 72.6 | +2.5 | 99 | 25 | 52 | 23 | 33 | 1.16 | ..... | 0.55 | ..... | 8 | 14 | 9 | 7 | N | W. L. Woods. | |
| Darlington Academy..... | Harford..... | 300 | 9 | 71.1 | +0.6 | 93 | 25 | 50 | 23 | 31 | 1.62 | -2.03 | 0.80 | ..... | 5 | 17 | 12 | 1 | SW | Prof. A. F. Galbreath. | |
| Fallston School..... | Harford..... | 450 | 30 | 69.8 | -0.2 | 92 | 25 | 48 | 23 | 27 | 1.82 | -1.74 | 0.57 | ..... | 9 | ..... | ..... | ..... | ..... | G. G. Curtiss, A. M. | |
| Frederick..... | Fredrick..... | 250 | 26 | 73.1 | +1.3 | 99 | 25 | 47 | 22 | 37 | 0.74 | -2.24 | 0.48 | ..... | 3 | 18 | 11 | 1 | NW | McClintock Young. | |
| Great Falls..... | Montgomery..... | 150 | 10 | 72.2 | -1.5 | 97 | 26 | 47 | 23 | 34 | 0.53 | -2.15 | 0.38 | ..... | ..... | 18 | 0 | 12 | VAR. | Col. T. A. Bingham. | |
| Kensington..... | Baltimore..... | 545 | 23 | 72.8 | ..... | 97 | 26 | 47 | 21 | 35 | 0.78 | ..... | 0.48 | ..... | 3 | ..... | ..... | ..... | ..... | J. H. Hicks. | |
| Mt. St. Mary's College..... | Fredrick..... | 720 | 38 | 71.6 | +1.8 | 96 | 25 | 52 | 31 | 31 | 1.95 | -1.60 | 0.55 | ..... | 6 | 13 | 9 | 8 | NW | A. A. Mitchell, Ph. D. | |
| New Market..... | Fredrick..... | 550 | 15 | 73.6 | +0.4 | 99 | 25 | 45 | 23 | 49 | 0.63 | -2.53 | 0.49 | ..... | 2 | 17 | 2 | ..... | ..... | H. H. Hopkins, M. D. | |
| St. Charles College..... | Howard..... | 500 | 4 | 71.1 | -1.1 | 95 | 25 | 46 | 24 | 42 | 1.60 | -1.71 | 0.45 | ..... | 8 | 14 | 12 | 4 | W | Rev. George L. Harig. | |
| Taneytown..... | Carroll..... | 495 | 6 | 72.8 | +3.0 | 98 | 25 | 46 | 23 | 36 | 1.22 | -1.93 | 0.81 | ..... | 6 | 11 | 14 | 5 | W | Prof. H. Meier. | |
| Van Bibber..... | Harford..... | 20 | 3 | 72.2 | +3.0 | 95 | 25 | 52 | 22 | 39 | 1.30 | -1.40 | 0.31 | ..... | 7 | 18 | 9 | 3 | SW | H. A. Wroth. | |
| Western Maryland Coll..... | Carroll..... | 720 | 4 | 71.2 | ..... | 97 | 25 | 50 | 22 | 39 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | Prof. Roland Watts. | |
| Woodstock College..... | Baltimore..... | 392 | 29 | 72.8 | +2.0 | 95 | 25 | 50 | 23 | 38 | 1.80 | -1.14 | 0.45 | ..... | 5 | 22 | 6 | 2 | E | T. J. A. Freeman, S. J. | |
| Average..... | | | | 72.1 | +1.0 | | | | | | 1.22 | -1.98 | | | 6 | 15 | 11 | 4 | SW | | |
| SOUTHERN MARYLAND. | | | | | | | | | | | | | | | | | | | | | |
| Annapolis..... | Anne Arundel..... | 20 | 25 | 76.8 | -2.7 | 95 | 25 | 53 | 23 | 23 | 0.88 | -1.54 | 0.49 | ..... | 4 | 21 | 9 | 0 | NE | J. E. Abbott. | |
| Charlotte Hall School..... | St. Mary's..... | 167 | 5 | 73.0 | +0.7 | 98 | 25 | 48 | 22 | 42 | 1.76 | -0.89 | 0.54 | ..... | 8 | 13 | 17 | 0 | W | J. F. Coad. | |
| Cherryfields 2..... | St. Mary's..... | 20 | 20 | 72.4 | ..... | ..... | ..... | ..... | ..... | ..... | 2.95 | +0.33 | 1.01 | ..... | 6 | 9 | 19 | 2 | SE | Col. J. E. Coad. | |
| Distributing Reservoir 3..... | Dist. of Columbia..... | 120 | 26 | 76.0 | +1.8 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | Col. T. A. Bingham. | |
| Jewell..... | Anne Arundel..... | 165 | 11 | 71.1 | -2.5 | 95 | 25 | 49 | 23 | 29 | 2.57 | -1.07 | 1.12 | ..... | 7 | 18 | 11 | 1 | E | J. Plummer. | |
| Laurel..... | Prince George's..... | 150 | 4 | 72.0 | +1.5 | 99 | 25 | 47 | 23 | 42 | 0.65 | -2.75 | 0.40 | ..... | 3 | 15 | 14 | 1 | ..... | Dr. T. M. Baldwin. | |
| Md. Agricultural College..... | Prince George's..... | 170 | 7 | 73.8 | +2.5 | 98 | 25 | 48 | 22 | 36 | 0.35 | -2.85 | 0.21 | ..... | 4 | ..... | ..... | ..... | ..... | Prof. J. H. Patterson. | |
| Receiving Reservoir 3..... | Dist. of Columbia..... | 160 | 8 | 75.0 | +1.3 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | Col. T. A. Bingham. | |
| Solomon's..... | Calvert..... | 20 | 7 | 74.0 | -0.4 | 96 | 26 | 55 | 6 | 27 | 1.72 | -1.89 | 1.12 | ..... | 6 | 13 | 5 | 12 | SE | W. H. Marsh, M. D. | |
| Washington..... | Dist. of Columbia..... | 112 | 28 | 73.4 | +2.0 | 97 | 25 | 53 | 23 | 30 | 1.33 | -2.47 | 0.71 | ..... | 5 | 15 | 13 | 2 | S | U. S. Weather Bureau. | |
| Average..... | | | | 73.8 | +1.1 | | | | | | 1.52 | -1.64 | | | 5 | 15 | 12 | 3 | SE | | |
| EASTERN MARYLAND. | | | | | | | | | | | | | | | | | | | | | |
| Chestertown..... | Kent..... | 80 | 14 | 71.0 | -0.4 | 91 | 26 | 50 | 23 | 26 | 1.17 | -3.41 | 0.47 | ..... | 5 | 22 | 7 | 1 | N.E | Hon. M. de K. Smith. | |
| Denton..... | Caroline..... | 42 | 9 | 76.0 | +3.5 | 98 | 30 | 52 | 8 | 35 | 1.83 | -1.99 | 0.96 | ..... | 4 | ..... | ..... | ..... | ..... | F. C. Ramsdell. | |
| Easton..... | Talbot..... | 35 | 9 | 72.3 | +0.3 | 96 | 25 | 51 | 21 | 32 | 1.47 | -1.38 | 0.37 | ..... | 8 | 20 | 9 | 1 | SW | Henry Shreve. | |
| Mardela Springs..... | Wicomico..... | 25 | 11 | 69.6 | ..... | 91 | 13 | 44 | 19 | 32 | 3.23 | +1.69 | 2.68 | ..... | ..... | ..... | ..... | ..... | ..... | A. E. Acworth. | |
| Ocean City..... | Worcester..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | E. M. Scott. | |
| Pocomoke City..... | Worcester..... | 37 | 5 | 73.4 | -0.5 | 98 | 26 | 53 | 7 | 27 | 2.38 | +0.57 | 1.70 | ..... | 4 | 15 | 11 | 4 | SE | R. M. Stevenson. | |
| Port Deposit..... | Cecil..... | 1 | 1 | 71.0 | +1.0 | 95 | 27 | 48 | 1 | 38 | 1.81 | -1.86 | 0.60 | ..... | 5 | 17 | 9 | 4 | NW | J. I. France. | |
| Princess Anne..... | Somerset..... | 20 | 24 | 70.5 | -1.9 | 93 | 26 | 50 | 1 | 39 | 3.87 | +1.86 | 2.27 | ..... | 9 | 7 | 22 | 1 | SW | J. R. Stewart. | |
| Average..... | | | | 72.0 | +0.2 | | | | | | 2.25 | -0.44 | | | 6 | 16 | 12 | 2 | SW | | |
| DELAWARE. | | | | | | | | | | | | | | | | | | | | | |
| Dover..... | Kent..... | 40 | 22 | 71.0 | -2.5 | 94 | 28 | 51 | 23 | 26 | 2.07 | -1.08 | 0.79 | ..... | 5 | 20 | 1 | 9 | NW | A. A. Bateman. | |
| Kirkwood 2..... | Newcastle..... | 60 | 2 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | J. S. Carnagy. | |
| Millsboro..... | Kent..... | 20 | 19 | 73.2 | +0.8 | 95 | 25 | 54 | 23 | 33 | 2.40 | -1.41 | 0.70 | ..... | 5 | 23 | 0 | 7 | ..... | J. Y. Foulk. | |
| Newark (Delaware Coll.)..... | Sussex..... | 23 | 6 | 70.8 | -0.8 | 97 | 27 | 52 | 23 | 30 | 3.64 | +0.65 | 1.57 | ..... | 9 | 19 | 7 | 4 | E | Rev. L. W. Wells. | |
| Seaford..... | Sussex..... | 136 | 2 | 70.8 | +1.0 | 94 | 25 | 49 | 23 | 30 | 3.99 | +1.48 | 1.91 | ..... | 9 | 17 | 8 | 5 | VAR. | Prof. W. H. Bishop. | |
| ..... | Sussex..... | 40 | 6 | 71.5 | +0.3 | 95 | 26 | 52 | 23 | 27 | 3.12 | +0.19 | 1.55 | ..... | 7 | 23 | 0 | 7 | VAR. | H. L. Wallace. | |
| Average..... | | | | 71.5 | -0.2 | | | | | | 3.04 | -0.03 | | | 7 | 21 | 3 | 6 | NW | | |
| General average..... | | | | 71.7 | +0.6 | | | | | | 2.00 | -1.17 | | | 6 | 16 | 10 | 4 | NW | | |

NOTE.—All records are used in determining State or district means, but State and district departures are determined by comparison of current data of only such stations as have normals.

2 Mean of 8 a. m. + 8 p. m. + 2.
3 Mean of 7 a. m. + 2 p. m. + 2.

TOTAL PRECIPITATION, JUNE, 1898.



Daily precipitation for Maryland and Delaware, June, 1898.

| Stations. | Day of month. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Total. |
|--|---------------|-----|-----|-----|-----|----|----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|------|------|-----|-----|-----|-----|------|-----|------|------|-----|-----|------|--------|
| | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 10. | 11. | 12. | 13. | 14. | 15. | 16. | 17. | 18. | 19. | 20. | 21. | 22. | 23. | 24. | 25. | 26. | 27. | 28. | 29. | 30. | 31. | |
| WESTERN MARYLAND. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Boetherville..... | | | | | | | † | | | 1.00 | | .40 | | | | | | | .30 | | .05 | | | | .10 | | | .05 | | | | 1.90 |
| Cumberland..... | | | | | | | | | .20 | .70 | .10 | | .32 | | | | | | .14 | | | | | | .12 | | | .08 | | | | 1.66 |
| Deer Park..... | | | | | | | | | .35 | .44 | .57 | .71 | .05 | | | | | | .63 | | | | | .37 | | | .24 | | | | 3.36 | |
| Frostburg..... | | | | | | | | | .04 | .42 | .09 | .63 | | .02 | | | | | .08 | | .16 | | | .25 | | | .07 | | | | 1.76 | |
| Grantsville..... | | | | | | | | .07 | | .38 | .25 | .65 | .14 | | | | | | .21 | | .28 | | | .63 | | | .46 | | | | 3.07 | |
| Green Spring Furnace..... | | | .16 | | | | | | | .55 | .05 | .12 | | | | | | | .05 | | .01 | | | | | | | .02 | | | 0.76 | |
| Hagerstown..... | | | | | | | | | | .65 | | .40 | .10 | | | | | | | .72 | | .20 | | | .06 | | | .04 | | | | 2.77 |
| Hancock..... | | .20 | .40 | | | | | | | .30 | .08 | .45 | | | | | | | † | | .45 | | | .02 | | | † | | | | 1.23 | |
| Sharpsburg..... | | | .19 | | .19 | | | | | .25 | .15 | .07 | | | | | | | | .05 | | | | † | | | † | | | | 0.58 | |
| Smithsburg..... | | | | .06 | | | | | | .23 | .35 | .68 | † | | | | | | .22 | | .08 | | | .33 | .18 | | .26 | | | | 2.33 | |
| Sunnyside..... | | † | | | | | | | | .27 | .03 | .96 | | | | | | | .04 | | | | | | .35 | | | | | | 2.18 | |
| Westernport..... | | | | .05 | | | | | | .48 | | | | | | | | | | | | | | | | | | | | | | |
| NORTHERN-CENTRAL MARYLAND. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bachman's Valley..... | | | | † | | | | | | .23 | .14 | .34 | | | † | † | † | | .09 | | | | | .06 | | | † | | | | 0.86 | |
| Baltimore..... | | | | † | | | | | | .13 | | .51 | | | † | | | | .14 | | .02 | | | .24 | | | † | .02 | | | 1.06 | |
| Baltimore, Johns Hopkins Hospital..... | | | | | | | | | | .05 | | | .55 | | | | | | .13 | .10 | .05 | | | .23 | | | † | .01 | .04 | | 1.16 | |
| Darlington Academy..... | | | | | | | | | | .34 | | .18 | | | | | | | .80 | | .02 | .28 | | | | | | | | | 1.62 | |
| Fallston School..... | | † | | † | | | | | | .56 | | .28 | | | † | | | | .12 | | .01 | .01 | .06 | .17 | | | .57 | .04 | | | 1.82 | |
| Frederick..... | | † | | | | | | | | .18 | † | .48 | † | | | | | | † | | † | | .01 | .08 | | | † | | | | 0.74 | |
| Great Falls..... | | | | | | | | | | | | .48 | | | | | | | † | † | | | | .15 | | | .15 | | | | 0.78 | |
| Kensington..... | | | | | | | | | | | | .48 | | | | | | | † | † | | | | | | | | | | | | |
| Mt. St. Mary's College..... | | | .04 | .48 | | | | | | .55 | .05 | .36 | | | | | | | | | | | † | | .47 | | | | | | 1.95 | |
| New Market..... | | † | | † | | | | | | .49 | † | .14 | | | | | | | † | † | | | | | | | † | | | | 0.63 | |
| St. Charles College..... | | | | .93 | | | | | | .16 | † | .39 | | | | | | | | | .10 | | .08 | .45 | | | † | .34 | .05 | | 1.60 | |
| Taneytown..... | | | | .07 | | | | | | .18 | .81 | .13 | | | | | | | † | † | | | | .02 | | | | | | | 1.22 | |
| Van Bibber..... | | | | † | | | | | | .24 | .01 | .23 | | | | | | | † | † | † | | .12 | .12 | | | .27 | .31 | | | 1.30 | |
| Western Maryland College..... | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Woodstock College..... | | | | † | | | | | | .41 | † | .45 | | | † | † | | .20 | | † | | | | .39 | | | .35 | | | | 1.80 | |
| SOUTHERN MARYLAND. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Annapolis..... | | | | † | | | | | | .17 | | .49 | | | † | | † | | | | | | .03 | | .19 | | | † | | | 0.88 | |
| Charlotte Hall School..... | | | .05 | | | | | | | .26 | .02 | .24 | | | | | | | .12 | | | | | .18 | .35 | | .54 | | | | 1.76 | |
| Cherryfields..... | | | | | † | | | | | | | .35 | .42 | | | | | | 1.01 | .92 | | | | | | .19 | | .06 | | | 2.95 | |
| Distributing Reservoir, D. C..... | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jewell..... | | | | | | | | | | 1.12 | | .20 | .25 | | | | | | † | .25 | | | | | .20 | .35 | | .20 | | | 2.57 | |
| Laurel..... | | | | | | | | | | .40 | | .05 | .25 | | | | | | † | .25 | | | | | † | | .20 | | | | 0.65 | |
| Maryland Agricultural College..... | | | | | | | | | | | | .03 | | | | | | | | | | | | .06 | | | .21 | .05 | | | 0.35 | |
| Receiving Reservoir, D. C..... | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Solomon's..... | | | | † | | | | | | .05 | .02 | .45 | | | | | | | .04 | † | | | | † | 1.12 | | .04 | | | | 1.72 | |
| Washington, D. C..... | | | | | | | | | | .11 | | .07 | | | | | | | † | † | | | | .35 | | | .71 | .09 | | | 1.33 | |
| EASTERN MARYLAND. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Chestertown..... | | | .12 | | | | | | | .22 | | .47 | | | | | | | | | | | | .08 | | .28 | | | | | 1.17 | |
| Denton..... | | | | | | | | | | | | .16 | | | | | | | .96 | | .05 | † | | | .33 | | .49 | | | | 1.83 | |
| Easton..... | | | .10 | | | | | | | .12 | | .16 | | | | | | | | .37 | | .03 | | † | .37 | | .32 | | | | 1.47 | |
| Mardela Springs..... | | | | .01 | † | | | | | .38 | | .16 | | | | | | | | 2.68 | | | | | | | | | | | 3.23 | |
| Ocean City..... | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pocomoke City..... | | | | | | | | | | | .16 | | | | | | | | | 1.70 | | | | | † | | .52 | | | | 2.38 | |
| Fort Deposit..... | | | | | | | | | | .34 | | .16 | | | | | | | | .60 | | | | | | | .10 | | .56 | | 1.81 | |
| Princess Anne..... | | .02 | † | † | † | | | | | .22 | | .29 | | | † | | | | .35 | 1.92 | | | .01 | † | .15 | | .89 | .02 | | | 3.87 | |
| DELAWARE. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dover..... | | | | | | | | | | .09 | | | .21 | | | | | | | .79 | | | .49 | | † | | .49 | | | | 2.07 | |
| Milford..... | | | | | | | | | | .09 | | | | | | | | | | .70 | | .49 | .42 | | | | | | | | 2.40 | |
| Millsboro..... | | | | | .11 | | | | | .12 | | .26 | | | | | | | | 1.22 | | | .36 | | | | .37 | 1.20 | | | 3.64 | |
| Newark (Delaware College)..... | | | .07 | | | | | | | .24 | | .05 | | | | | | | | 1.46 | | .02 | .13 | | .11 | | 1.91 | | | | 3.99 | |
| Seaford..... | | | | | | | | | | .08 | | .14 | | | | | | | | 1.55 | | | .11 | | | .18 | 1.06 | | | | 3.12 | |

† Trace, when precipitation is less than 0.01 inch.